3.1 Battle Area Complex (BAX)

USAG-AK has proposed to construct a BAX on lands at Fort Wainwright's DTA. The BAX is designed for gunnery training and would meet qualification requirements of crew-served, vehicle-mounted weapon systems. The BAX range would also support dismounted infantry platoon tactical live-fire operations, either independently of or simultaneous with supporting vehicles. Units would acquire skills needed to detect, identify, engage and defeat stationary and moving targets in a tactical array. Primary features of the BAX include course roads with crossover capability, stationary armor targets, moving armor targets, stationary infantry targets, moving infantry targets, machine gun bunkers, and breaching obstacles. All targets would be fully automated and the event-specific target scenario would be computer-driven and scored from the control facility. The range operating system would be fully capable of providing instrumented after-action reviews. In addition to the range, the BAX would include an after-action review facility, ammunition breakdown building, ammunition loading dock, operations/storage building, arctic latrines, bleacher enclosure, bivouac and unit staging area, covered mess area, building information systems, electric service, water and septic system, storm drainage, and general site improvements.

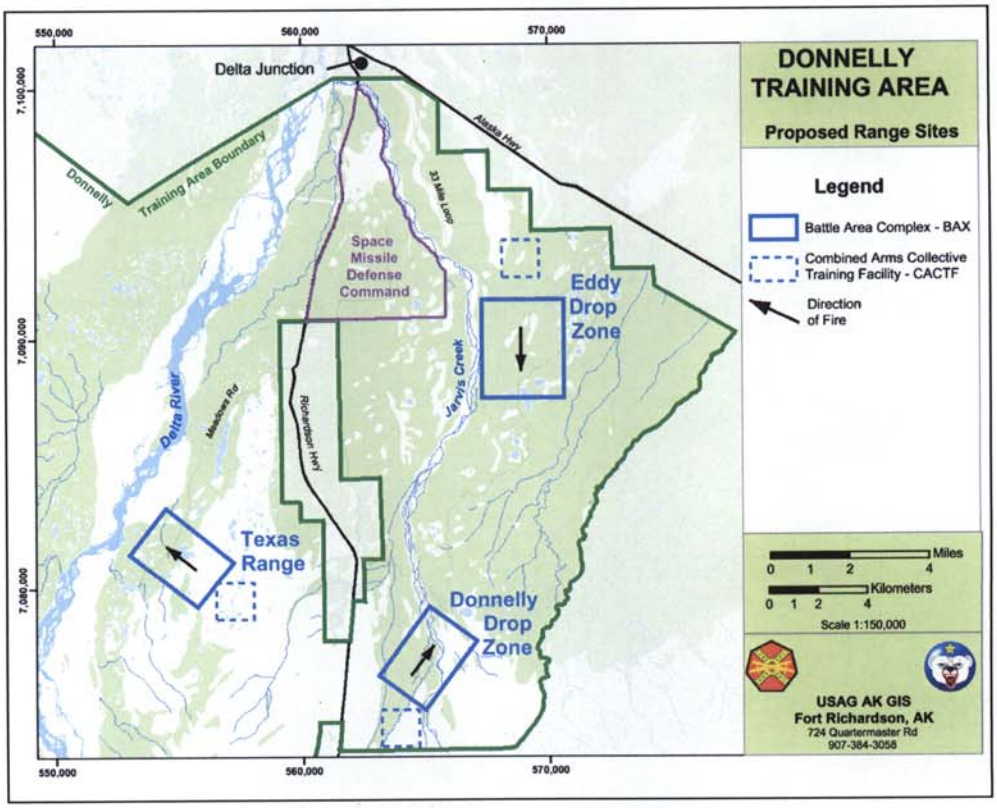

Figure 23. Location of the three BAX alternatives

There are three alternatives being considered for the siting of this project: North Texas Range (or the Big Lake area), Eddy Drop Zone and Donnelly Drop Zone (Figure 23). Survey for the construction footprints of the three BAX alternatives was conducted in 2002 and 2003 (Hedman et al. 2003; Robertson et al. 2004). The focus in 2003 was completion of the surveys for the firing fans or "surface danger zones" for the alternatives. The firing fan for the Texas Range alternative is located in an active impact

area and was not surveyed due to safety concerns. The firing fans for the Eddy Drop Zone alternative (firing south) and Donnelly Drop Zone alternative (firing north) overlap and this area received the majority of the resources for survey in 2003 (Robertson et al. 2004).

The focus of the 2004 field season was to complete site evaluations and determinations of eligibility (DOEs) for listing in the National Register of Historic Places (NRHP) for sites located in the construction footprint and firing fans for the three alternatives of the BAX project.

Table 1. 2004 DOEs for BAX Project

SITE #	LOCATION	NRHP STATUS
XMH-00842	BAX Footprint Eddy DZ	Not Eligible
XMH-00878	BAX Footprint Eddy DZ	Eligible
XMH-00904	BAX Footprint Eddy DZ	Eligible
XMH-00912	BAX Footprint Eddy DZ	Not Eligible
XMH-00916	BAX Footprint Eddy DZ	Not Eligible
XMH-00919	BAX Footprint Eddy DZ	Eligible
XMH-00945	BAX Footprint Eddy DZ	Eligible
XMH-01160	BAX Footprint Eddy DZ	Not Eligible
XMH-00279	BAX Firing Fans	Eligible
XMH-00292	BAX Firing Fans	Eligible
XMH-00920	BAX Firing Fans	Eligible
XMH-01092	BAX Firing Fans	Eligible
XMH-01093	BAX Firing Fans	Eligible
XMH-01094	BAX Firing Fans	Not Eligible
XMH-01101	BAX Firing Fans	Not Eligible
XMH-01102	BAX Firing Fans	Not Eligible
XMH-01103	BAX Firing Fans	Not Eligible
XMH-01107	BAX Firing Fans	Eligible
XMH-01109	BAX Firing Fans	Eligible
XMH-01110	BAX Firing Fans	Eligible
XMH-01112	BAX Firing Fans	Not Eligible
XMH-01113	BAX Firing Fans	Not Eligible
XMH-01115	BAX Firing Fans	Eligible
XMH-01116	BAX Firing Fans	Eligible
XMH-01127	BAX Firing Fans	Not Eligible
XMH-01145	BAX Firing Fans	Eligible
XMH-01146	BAX Firing Fans	Eligible
XMH-00939	BAX Footprint Big Lake Area	Eligible
XMH-00940	BAX Footprint Big Lake Area	Not Eligible
XMH-00941	BAX Footprint Big Lake Area	Not Eligible
XMH-00948	BAX Footprint Big Lake Area	Not Eligible

Cultural Resources

Determinations of eligibility for the National Register for 31 archaeological sites (Table 1) were completed in the summer of 2004 (Figure 24). The determinations of eligibility for these sites are presented below.

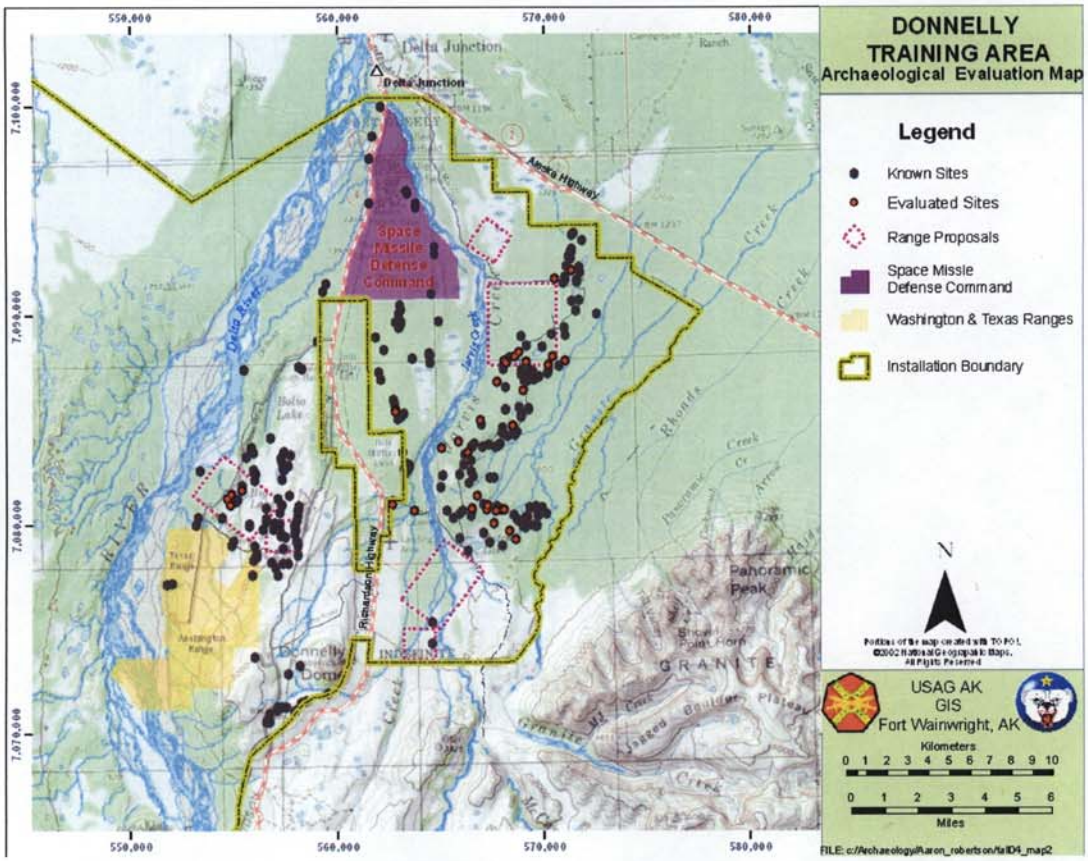

Figure 24. Location of archaeological sites evaluated for National Register eligibility

<u>*XMH-00279*</u>

Latitude:
Longitude:
Determination: Eligible

Site XMH-00279 is located on a narrow knoll overlooking a nearly dried-up unnamed lake located 50m to the south. The viewshed at the site is largely obstructed by trees; however, the Granite Mountains are visible to the southeast. The vegetation consists of a mixed forest with dwarf trees, moss, lichen, and dwarf scrub. Surface visibility is approximately 5 percent on the site. The UTM coordinates for the site are:

Figure 25. General view of site XMH-00279, facing north

Site XMH-00279 was identified in a 1979 survey and consists of one black chert flake recovered from a shovel test pit (Holmes 1979). This site was revisited in 2002, and because location information for the site was several hundred meters off, the site was inadvertently given a new AHRS number (XMH-00918). Later investigation revealed that XMH-00279 and XMH-00918 are the same site. The site was evaluated for eligibility for listing in the National Register in the summer of 2004 under its original site number, XMH-00279.

Site XMH-00279 consists mainly of lithic debitage. Two flakes were found on the surface and an additional six flakes were found subsurface in either shovel test pits or the excavation unit (including the original flake from 1979). One quartzite uniface was found at the site in the excavation unit. The uniface is white in color, 44.8mm long, 37.8mm wide, and weighs 18g. Chert and basalt were present among the debitage. All artifacts encountered were collected from the site. No density plots were calculated at the site.

Shovel tests were systematically placed throughout the site area at intervals of 10m. Three shovel tests were placed at 5m intervals in order to determine the best location for placement of the excavation unit. A total of 16 shovel tests were excavated at the site in 2004. The depth of the shovel tests varied across the site, but all were excavated to glacial till. A total of two shovel tests were positive, with one containing one flake and the other containing two flakes. Subsurface artifacts were found at depths of 1-15cm in all positive shovel tests.

One 1m x 1m test unit was excavated at XMH-00279. The unit was placed to the east of the site datum, between the two positive shovel test pits excavated during the evaluation. The unit was excavated in 10cm levels until glacial till was reached. The glacial till layer was 5-10cm thick followed by a layer of moderately compacted, yellow brown, sandy loess. An additional level was dug through this loess. The test unit contained three artifacts. A chert flake was recovered from level one at a depth of 1-10cm below the unit datum. A quartzite uniface was recovered from level two at a depth of 10-20cm below the unit datum. Another chert flake was recovered from level two at a depth of 15cm below the unit datum. No subsurface features were identified at the site.

Soil thickness varied from 20-150cm across the site. The highest elevations of the site had shallower deposits that averaged only 30cm. Soil in this area consists of a loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted yellowish brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a very high density of gravels and cobbles. Soil down slope from the top of the site showed more deposition, averaging 50cm, with four shovel tests exceeding 95cm in depth. Soil in these areas consists of loosely compacted, dark brown, organically rich loess that is present to an average depth of 5cm. Below this organic horizon, the soil consists of moderately compacted dark brown loess with a low density of gravels and cobbles. Below this loess deposit, the soil turns to moderately compacted yellow brown loess, also with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a very high density of gravels and cobbles. The shovel test pits that were 100cm or greater in depth are thought to have had small (5-10cm) lenses of glacial till before transitioning to a thick layer of yellow brown sandy loess with a very low density of gravels and cobbles.

Findings
A total of 9 artifacts were recovered from XMH-00279. Two were recorded on the surface and seven were recovered from below the surface. Based on the results of survey and testing, the site area is estimated at approximately 20m x 35m.

Site XMH-00279 is a small lithic site with both surface and buried components where late stage lithic reduction occurred. With buried cultural material, XMH-00279 is in a position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00279 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

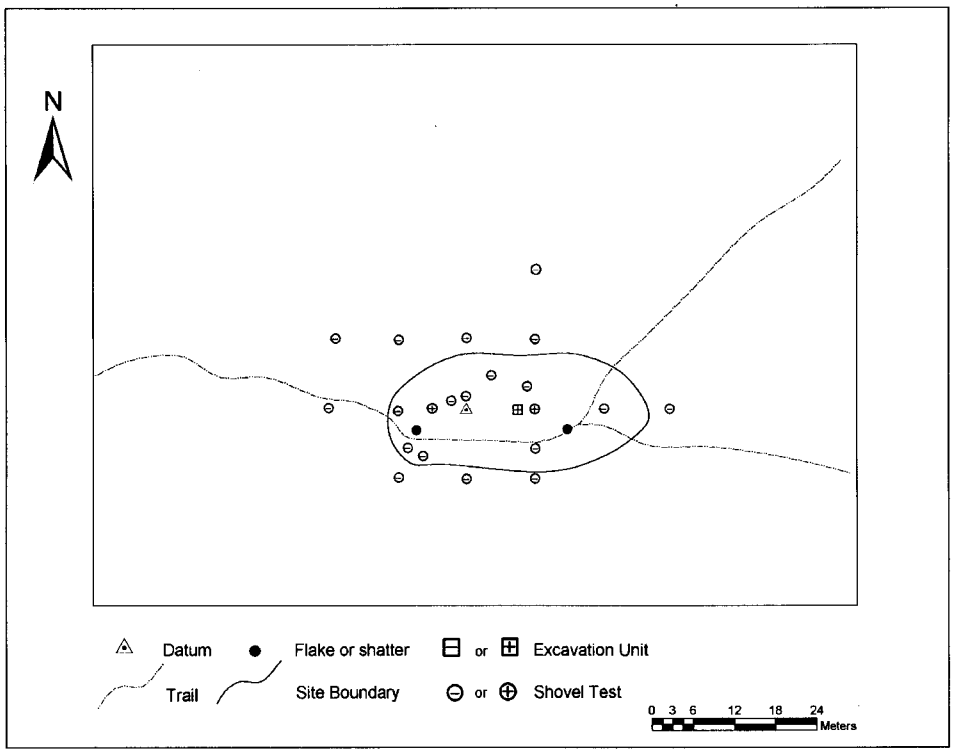

Figure 26. Site map of XMH-00279

XMH-00292
Latitude:
Longitude:
Determination: Eligible

Site XMH-00292 is located on a northeast-southwest trending ridge which has an approximately 180° unobstructed view to the south. The Granite Mountains are visible to the southeast, Donnelly Dome to the south, and the Alaska Range to the southwest. The nearest water source is , located 750m to the north of the site. Surface visibility at the site is high due to wind erosion and the disturbance caused by extending across the landform. The UTM coordinates for the site are:

Site XMH-00292 was identified during a 1979 survey. It consisted of 12 chert flakes and one siltstone flake found on the surface (Holmes 1979). This site was revisited in 2002. Location information for the site was several hundred meters off and the site was inadvertently given a new AHRS number (XMH-00885). A second site was located at the southern end of the same landform, more then 50m from XMH-00292. It was given the AHRS number XMH-00886. Later investigation revealed that XMH-00292 and XMH-00885 are the same site and that surface material linked XMH-00292 with XMH-00886. Therefore, site XMH-00292 encompasses both XMH-00885 and XMH-00856. Both XMH-00885 and XMH-00886 were evaluated for eligibility for the National Register in the summer of 2004 under the original site number XMH-00292.

Site investigation of XMH-00292 identified two bifaces (one complete projectile point and one biface fragment), a chert microblade and more than 50 flakes. Of these, one biface fragment and a chert microblade were found on the surface. One projectile point and 12 flakes were found in shovel test pits. Chert, basalt, rhyolite, quartzite, and obsidian (a non-locally occurring material type) were present among the debitage. Thirteen of the more than 40 flakes found on the surface were collected in 2004 because they were in the roadway. Two flakes found in the shovel tests were collected. No density plots were placed at the site.

Shovel tests were systematically placed throughout the site area at intervals of 10m. A total of 48 shovel tests were excavated. The depth of shovel tests varied, but all were excavated to glacial till. A total of two shovel tests were positive in 2004 with each containing one artifact. Both positive shovel tests were profiled. Subsurface artifacts were found 10-30cm below the surface in both positive shovel tests. An additional 3 positive shovel tests had been excavated in 2002.

Figure 27. General view of site XMH-00292, facing east

No subsurface features were identified at the site. Soil thickness varied from 5-45cm in depth across the site. The northern and southern ends of the site have sustained considerable wind erosion, and soil deposition averaged 15cm in these areas. Soil in these areas consists of loosely compacted, brown, organically rich loess to an average depth of 5cm. Below this organic layer, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. Soil between either end of the landform and off the roadway shows more deposition, averaging 35cm. Soil in these areas is composed of loosely compacted, dark brown, organically rich loess that is present to an average of 10cm below the surface. Below this organic horizon, the soil consists of moderately compacted yellow brown loess with a low density of gravels and cobbles. Glacial till is encountered below this loess deposit and consists of yellow brown sandy loess with a high density of gravels and cobbles. The roadway has been bladed down to glacial till and showed no deposition whatsoever.

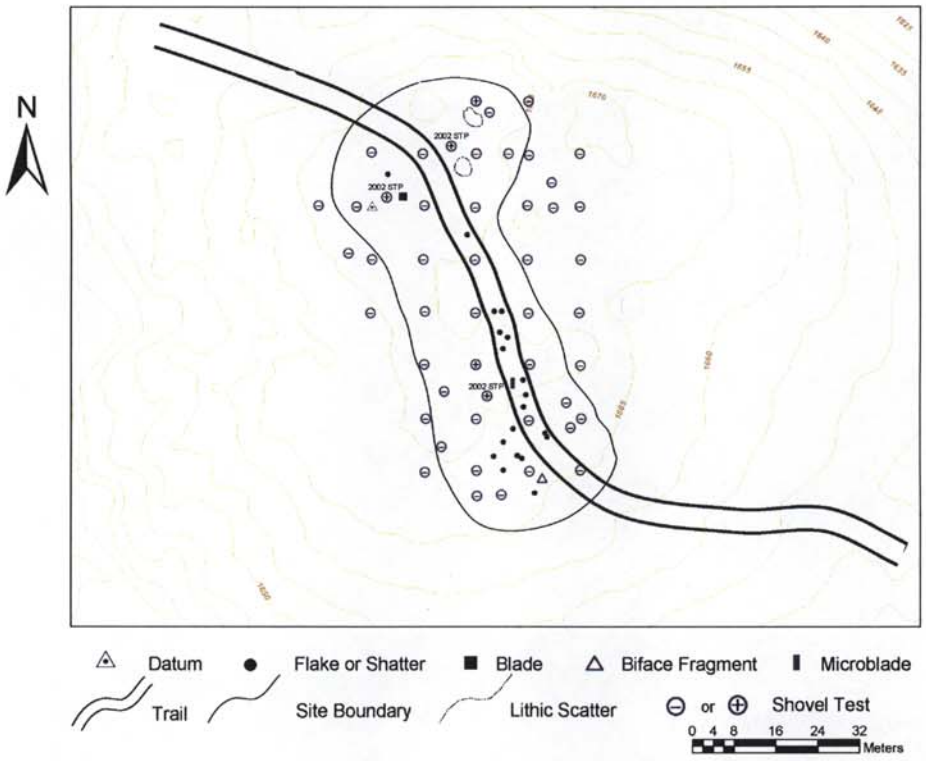

Figure 28. Site map of XMH-00292

Table 2. Lithic assemblage recorded from XMH-00292

Artifact Class	Frequency	% of Assemblages
Bifaces		
Projectile points	1	<1%
Biface fragments	1	<1%
Microblade Cores and Microblades		
Microblades	1	<1%
Debitage		
Flakes	60	99%
Total	63	100%

Findings

More than 63 artifacts were recorded at XMH-00292. At least 50 were recorded from the surface and 13 were recovered from below the surface, including a complete biface in 2002. The materials at the site include chert, basalt, rhyolite, quartzite and obsidian. Based on the results of survey and testing, the site area is estimated at approximately 80m x 20m.

Site XMH-00292 is a large lithic site with both surface and buried components. Both microblade production and late stage lithic reduction of non-locally occurring material types occurred at the site. With microblade production, non-local material types, and buried cultural material, XMH-00292 is in an excellent position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date

human use of the site, potentially contributing to a broader regional context. Site XMH-00292 is an intact archaeological site with integrity despite evidence of previous impacts. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.

XMH-00842
Latitude:
Longitude:
Determination: Not Eligible

Site XMH-00842 is located on a military trail . The closest water source is , which is 200m to the south. The vegetation consists of a mixed forest with moss, lichen, dwarf scrub and grasses. There is approximately 70-80 percent surface visibility at the site. The site was identified during a 1998 survey and consists of one red chert secondary flake found on the surface of a heavily disturbed area (Higgs et al. 1999). This site was revisited in 2004 and no new artifacts were located. UTM coordinates for the site are:

Findings
Pedestrian survey and eight shovel tests produced a total of only one surface artifact. This finding suggests that XMH-00842 is an isolated find. The paucity of cultural material and the highly disturbed context indicates that XMH-00842 does not contain additional information that is important to our understanding of the prehistory or history of the region and is not eligible for inclusion in the National Register of Historic Places.

XMH-00878
Latitude:
Longitude:
Determination: Eligible

Figure 29. General view of XMH-00878, facing west

Site XMH-00878 is located on a north-south trending ridge. The site is on the highpoint of the ridge and continues to the west towards a bluff edge. To the west the bluff slopes down very dramatically to generally flat terrain that continues for over 1km to . The nearest water source is , located approximately 300m to the east, which can not be seen from the site. The site has an approximately 180° unobstructed view to the west and an excellent view of Creek. Views are limited in all other directions. Wind erosion has affected the edge of the bluff, as well as parts of the highest point of the site, denuding it of trees. Some surface visibility is present in these eroded areas. Mechanical disturbance has occurred at the site as well. Trees have been knocked over in a 10m wide corridor that extends the length of the site. There are also three survey markers, including one with a concrete foundation. This site disturbance occurred in the past two years.

Site XMH-00908 is located 200m south of XMH-00878's datum and was originally identified as a separate site. The phase 2 evaluation located surface artifacts along the

ridge between the two sites, incorporating it into the boundaries of XMH-00878. Therefore, XMH-00878 and XMH-00908 are the same site. Additional sites have also been identified on high points in the vicinity. These sites are XMH-00907, located less than 200m to the south, and XMH-00945 less than 200m to the east. The UTM coordinates for XMH-00878 are:

A total of 85 artifacts were recorded at XMH-00878, four of which are associated with microblade production. A total of 37 artifacts were found on the surface, including 35 flakes and two tools – one fine-grained basalt unifacially worked scraper, and one large gray chert flake that appears to have a small amount of retouch and use wear along one of the edges. Both of these tools were collected. The materials at the site include gray rhyolite, gray chert, obsidian, purple medium-grained quartzite, black fine-grained basalt, and quartz. The majority of the flakes (53 of 78) were tertiary flakes, 11 (of 78) were secondary, and 2 (of 78) were large (7-8 cm) primary flakes.

One moderate to low-density artifact concentration was observed at the north end of the site on its high point approximately 25m east of the bluff's edge. The concentration consisted of 10 flakes within a 10m area, five of which were gray chert tertiary flakes. The remaining five are secondary flakes of chert, rhyolite, or quartzite.

Shovel tests were systematically placed throughout the site at intervals of either 5m or 10m where slope and vegetation allowed. A total of 124 shovel tests were excavated at the site with 16 total positive tests, from which 48 artifacts were recovered.

Artifacts include a unifacially worked obsidian scraper, 2 microblade rejuvenation flakes, 2 microblade sections, and 43 flakes. Six shovel tests were placed at 5m intervals near positive shovel tests in the center of the site where subsurface artifacts were concentrated.

Table 3. Lithic assemblage recorded from XMH-00878

Artifact Class	Frequency	% of Assemblages
Unifaces		
Scrapers	2	2%
Unifacially retouched flakes	1	1%
Microblade Cores and Microblades		
Microblade core rejuvenation flakes	2	2%
Microblades	2	2%
Debitage		
Flakes	79	93%
Total	86	100%

The depths of the shovel tests varied, but in all cases were excavated down to glacial till. Subsurface artifacts were found at an average depth of 10-20cm. One 1m x 1m test unit was excavated and one artifact was recovered. This unit was placed adjacent to a positive shovel test, in the vicinity of five other positive shovel tests. The unit was excavated in 10cm levels until reaching glacial till throughout the entire floor of the unit. Soil in this unit consisted of loosely compacted, dark brown, organically rich loess to an average depth of 5cm. Below this organic horizon, the soil is moderately compacted dark brown silt with reddish mottled silty soil to an average depth of 12cm. One obsidian tertiary flake was recovered from this layer. Below this, glacial till is encountered to an

average depth of 25cm. The unit was excavated to a depth of 30cm. A total of 49 artifacts were recovered from the site. Flakes were recovered from below the surface in shovel tests and the excavation unit (48 in the shovel tests and 1 in the test unit).

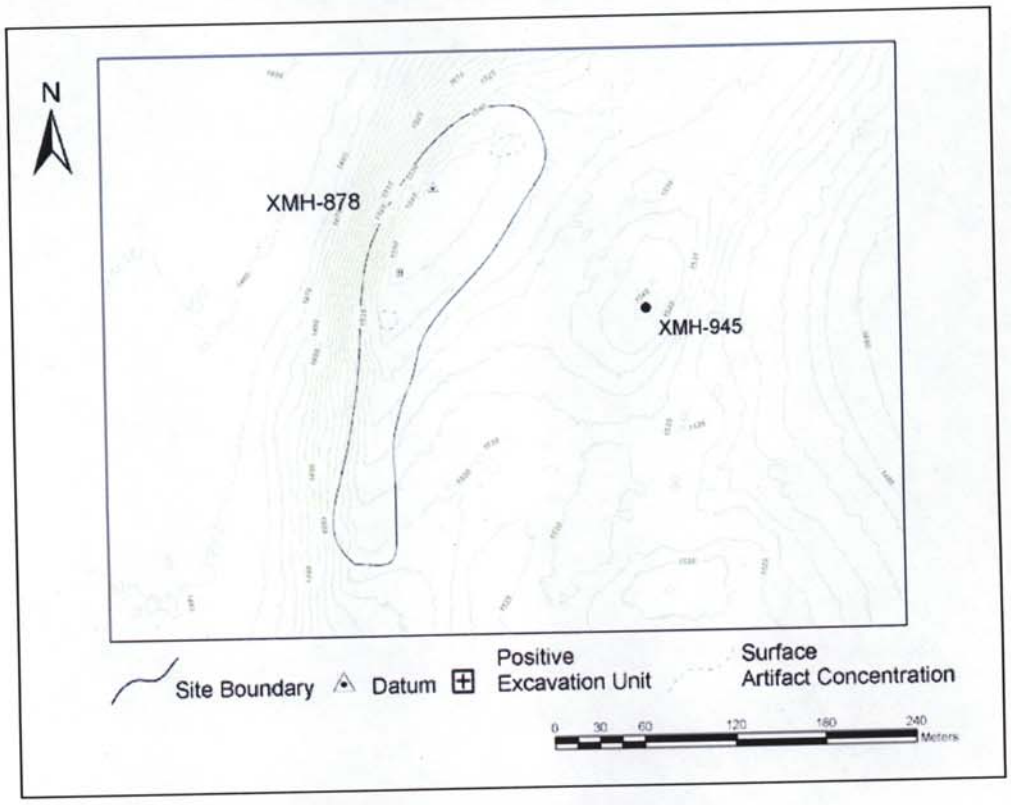

Figure 30. Site map of XMH-00878

Findings

A total of 86 artifacts were recovered from XMH-00878. Thirty-seven were recovered from the surface and 49 were recovered from below the surface. A total of three tools were found including one obsidian scraper, one basalt scraper, and one retouched chert flake. Also found were two microblade rejuvenation flakes and two microblade sections. The remaining finds were lithic debitage. Based on the results of survey and testing, the site area is estimated at approximately 300m x 30m.

Site XMH-00878 is a large lithic site with both surface and buried components. Both microblade production and late stage lithic reduction of non-locally occurring material types occurred at the site. With microblade production, non-local material types, and buried cultural material, XMH-00878 is in a position to contribute to our knowledge of prehistoric land use patterns. In situ artifacts and soil stratigraphy indicate datable material and diagnostic artifacts may be present and could be used to date human use of the site, potentially contributing to a broader regional context. Site XMH-00878 is an intact archaeological site with integrity. The site is eligible for inclusion in the National Register of Historic Places under criterion D for its potential to yield information important in understanding the prehistory of the region.